

ABSTRACT OF THE DISCLOSURE

An automated computer-implemented method for reorienting ECT myocardial perfusion images of a heart LV. The method includes receiving variously oriented tomographic images; receiving LV long-axis, LV center and LV axial limits based on the images; receiving the endocardial surface of the LV based on the images; determining a reorientation slice range based on the center and axial limits of the LV; receiving slices (N) within the reorientation slice range; for each slice, determining a center coordinate $x[i]$, $y[i]$ based on the endocardial surface and the area of the slice within a reorientation slice range coordinate system; determining translation Δx_i , Δy_i and rotation θ_x , θ_y values based on center coordinates $x[i=1 \text{ to } N]$, $y[i=1 \text{ to } N]$ to reorient the LV long axis to the z-axis and its origin of a reference Cartesian coordinate system; and automatically reorienting and realigning the tomographic images based on the translation and rotation values.